



**STATE OF TENNESSEE  
DEPARTMENT OF HEALTH  
ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL  
Lab Services - Jackson Regional Lab  
Jackson, TN 38301  
731-426-0686

TDH: Lab Services KRL  
Lab Services - Knoxville Regional Lab  
Knoxville, TN 37920  
865-549-5201

TDH: Lab Services NCL  
Lab Services - Nashville Central Lab  
Nashville, TN 37243  
615-262-6300

**Sent To:** Greg Denton  
TDEC-WPC  
6th Floor, L & C Tower Annex  
401 Church Street  
Nashville, TN 37243-1534

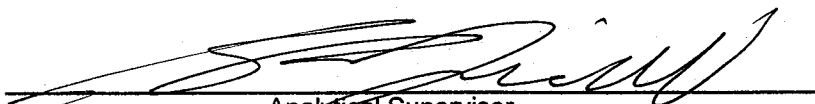
Michael Atchley  
TDEC-WPC  
Knoxville FO  
3711 Middlebrook Pike  
Knoxville, TN 37921

**Lab ID:** K00002586  
Knoxville Regional Laboratory

**Sampling Agency:** TDEC: Division of Water Pollution Control

**Billing Code:** 327.34-20

This is to certify that the following results were determined using good laboratory practices and in accordance with federal or state approved methodologies.

  
Analytical Supervisor

**Lab-Sample Number:** K00002586001  
**Project Name:**  
**Sample Description:** Emory River mile 12.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY012.1RO  
**Date/Time Collected:** 07/09/2009 09:58  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.62 pH Units  
**Chlorine, residual:**  
**Conductivity:** 107 uMHO  
**Temperature:** 25.50  
**Dissolved Oxygen:** 6.22 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	27	mg/L	3.8	10	S Burchfield	7/14/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	26	mg/L	0.7	1	P Leathers	7/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	7/10/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peebles	7/10/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002586002  
**Project Name:**  
**Sample Description:** Emory River mile 2.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2  
**Station No.:** EMORY002.1RO  
**Date/Time Collected:** 07/09/2009 11:02  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 8.24 pH Units  
**Chlorine, residual:**  
**Conductivity:** 149 uMHO  
**Temperature:** 27.80  
**Dissolved Oxygen:** 8.27 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	42	mg/L	3.8	10	S Burchfield	7/14/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	39	mg/L	0.7	1	P Leathers	7/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	7/10/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	15	mg/L	10	10	A Peebles	7/10/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002586003  
**Project Name:**  
**Sample Description:** Approx 100' D/S from middle dredge point  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2A  
**Station No.:** Dredge Plume  
**Date/Time Collected:** 07/09/2009 11:11  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 8.21 pH Units  
**Chlorine, residual:**  
**Conductivity:** 186 uMHO  
**Temperature:** 25.41  
**Dissolved Oxygen:** 9.13 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	74	mg/L	3.8	10	S Burchfield	7/14/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	63	mg/L	0.7	1	P Leathers	7/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	7/10/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	12	mg/L	10	10	A Peoples	7/10/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002586004  
**Project Name:**  
**Sample Description:** Emory River mile 1.9 at underwater weir  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2B  
**Station No.:** EMORY001.9RO  
**Date/Time Collected:** 07/09/2009 11:17  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

**Field Determinations**

**pH:** 8.34 pH Units  
**Chlorine, residual:**  
**Conductivity:** 187 uMHO  
**Temperature:** 25.23  
**Dissolved Oxygen:** 9.43 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	81	mg/L	3.8	10	S Burchfield	7/14/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	69	mg/L	0.7	1	P Leathers	7/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	7/10/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	12	mg/L	10	10	A Peebles	7/10/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002586005  
**Project Name:**  
**Sample Description:** Emory River mile 1.7  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 3  
**Station No.:** EMORY001.7RO  
**Date/Time Collected:** 07/09/2009 11:26  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 8.55 pH Units  
**Chlorine, residual:**  
**Conductivity:** 244 uMHO  
**Temperature:** 25.67  
**Dissolved Oxygen:** 10.35 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	110	mg/L	3.8	10	S Burchfield	7/14/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	84	mg/L	0.7	1	P Leathers	7/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	7/10/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	11	mg/L	10	10	A Peebles	7/10/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

**Lab-Sample Number:** K00002586006  
**Project Name:**  
**Sample Description:** Emory River mile 0.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 4  
**Station No.:** EMORY000.1RO  
**Date/Time Collected:** 07/09/2009 11:34  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 8.59 pH Units  
**Chlorine, residual:**  
**Conductivity:** 276 uMHO  
**Temperature:** 24.88  
**Dissolved Oxygen:** 11.08 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	110	mg/L	3.8	10	S Burchfield	7/14/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	90	mg/L	0.7	1	P Leathers	7/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	7/10/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	15	mg/L	10	10	A Peebles	7/10/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002586007  
**Project Name:**  
**Sample Description:** Clinch River mile 2.3  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 5  
**Station No.:** CLINC002.3RO  
**Date/Time Collected:** 07/09/2009 11:48  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 8.23 pH Units  
**Chlorine, residual:**  
**Conductivity:** 278 uMHO  
**Temperature:** 26.03  
**Dissolved Oxygen:** 9.20 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	100	mg/L	3.8	10	M Chen	7/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	84	mg/L	0.7	1	P Leathers	7/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	7/10/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	7/10/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**



**Lab-Sample Number:** K00002586008  
**Project Name:**  
**Sample Description:** Clinch River TVA Discharge Point  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 5A  
**Station No.:** KingAshOutF2  
**Date/Time Collected:** 07/09/2009 11:54  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 8.04 pH Units  
**Chlorine, residual:**  
**Conductivity:** 284 uMHO  
**Temperature:** 26.80  
**Dissolved Oxygen:** 8.38 mg/L  
**Other:**  
**Flow:** CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	100	mg/L	3.8	10	M Chen	7/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	82	mg/L	0.7	1	P Leathers	7/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	7/10/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	15	mg/L	10	10	A Peebles	7/10/2009

**J - Estimated value between MDL and MQL**  
**MDL - Method Detection Limit**  
**MQL - Method Quantitation Limit**  
**U - Undetected**

<b>Lab-Sample Number:</b>	K00002586009	<b>Field Determinations</b>	
<b>Project Name:</b>		<b>pH:</b>	8.22      pH Units
<b>Sample Description:</b>	Clinch River mile 4.5 near Sugar Grove Valley R	<b>Chlorine, residual:</b>	
<b>Sampler Project Name:</b>	TVA Ash Spill	<b>Conductivity:</b>	280      uMHO
<b>Project Site No.:</b>	6	<b>Temperature:</b>	22.14
<b>Station No.:</b>	CLINC004.5RO	<b>Dissolved Oxygen:</b>	10.44      mg/L
<b>Date/Time Collected:</b>	07/09/2009    12:04	<b>Other:</b>	
<b>Sampler's Name:</b>	Geoff Klein	<b>Flow:</b>	CFS
<b>County:</b>	ROANE - 73		
<b>Sample Matrix:</b>	Water		
<b>EFO:</b>	Knoxville		
<b>Sampling Agency:</b>	TDEC-WPC		
<b>Billing Code:</b>	327.34-20		
<b>Send Report To:</b>	TDEC-WPC		
<b>Agency Invoiced:</b>	TDEC-WPC		
<b>Priority Date:</b>	07/19/2009		
<b>Date/Time Received:</b>	07/09/2009    14:07		
<b>Received By:</b>	E McCrary		

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	98	mg/L	3.8	10	M Chen	7/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	89	mg/L	0.7	1	P Leathers	7/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	7/10/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peebles	7/10/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected



**STATE OF TENNESSEE  
DEPARTMENT OF HEALTH  
ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL  
Lab Services - Jackson Regional Lab  
Jackson, TN 38301  
731-426-0686

TDH: Lab Services KRL  
Lab Services - Knoxville Regional Lab  
Knoxville, TN 37920  
865-549-5201

TDH: Lab Services NCL  
Lab Services - Nashville Central Lab  
Nashville, TN 37243  
615-262-6300

**Sent To:** Greg Denton  
TDEC-WPC  
6th Floor, L & C Tower Annex  
401 Church Street  
Nashville, TN 37243-1534

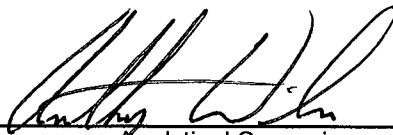
Michael Atchley  
TDEC-WPC  
Knoxville FO  
3711 Middlebrook Pike  
Knoxville, TN 37921

**Lab ID:** K00002586  
Knoxville Regional Laboratory

**Sampling Agency:** TDEC: Division of Water Pollution Control

**Billing Code:** 327.34-20

This is to certify that the following results were determined using  
good laboratory practices and in accordance with federal or state  
approved methodologies.

  
\_\_\_\_\_  
Analytical Supervisor

**Lab-Sample Number:** K00002586001  
**Project Name:**  
**Sample Description:** Emory River mile 12.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY012.1RO  
**Date/Time Collected:** 07/09/2009 09:58  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 7.62 pH Units  
**Chlorine, residual:**  
**Conductivity:** 107 uMHO  
**Temperature:** 25.50  
**Dissolved Oxygen:** 6.22 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/11/2009				S Ufegbu	7/11/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	170	µg/L	2.9	10	S Ufegbu	7/17/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	51	µg/L	6.4	10	M Pattanayek	7/17/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	7/17/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	7/17/2009
Barium	37	µg/L	2.5	5	M Pattanayek	7/17/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	7/17/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/17/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/17/2009
Cobalt	0.25J	µg/L	0.04	1	M Pattanayek	7/17/2009
Copper	2.0	µg/L	0.38	1	M Pattanayek	7/17/2009
Lead	0.20J	µg/L	0.10	1	M Pattanayek	7/17/2009
Manganese	97	µg/L	0.42	1	M Pattanayek	7/17/2009
Nickel	1.3	µg/L	0.25	1	M Pattanayek	7/17/2009
Selenium	2.6J	µg/L	1.3	5	M Pattanayek	7/18/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	7/17/2009
Thallium	0.36J	µg/L	0.03	1	M Pattanayek	7/17/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	7/17/2009
Zinc	4.2J	µg/L	1.9	5	M Pattanayek	7/17/2009

**Lab-Sample Number:** K00002586001  
**Project Name:**  
**Sample Description:** Emory River mile 12.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 1  
**Station No.:** EMORY012.1RO  
**Date/Time Collected:** 07/09/2009 09:58  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
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**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

**Field Determinations**

**pH:** 7.62 pH Units  
**Chlorine, residual:**  
**Conductivity:** 107 uMHO  
**Temperature:** 25.50  
**Dissolved Oxygen:** 6.22 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.12J	µg/L	0.029	0.2	A Bass	7/14/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Lab-Sample Number: K00002586002

Project Name:

Sample Description: Emory River mile 2.1

Sampler Project Name: TVA Ash Spill

Project Site No.: 2

Station No.: EMORY002.1RO

Date/Time Collected: 07/09/2009 11:02

Sampler's Name: Geoff Klein

County: ROANE - 73

Sample Matrix: Water

EFO: Knoxville

Sampling Agency: TDEC-WPC

Billing Code: 327.34-20

Send Report To: TDEC-WPC

Agency Invoiced: TDEC-WPC

Priority Date: 07/19/2009

Date/Time Received: 07/09/2009 14:07

Received By: E McCrary

**Field Determinations**

pH: 8.24 pH Units

Chlorine, residual:

Conductivity: 149 uMHO

Temperature: 27.80

Dissolved Oxygen: 8.27 mg/L

Other:

Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/11/2009				S Ufegbu	7/11/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	270	µg/L	2.9	10	S Ufegbu	7/17/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	400	µg/L	6.4	10	A Wilson	7/19/2009
Antimony	0.39J	µg/L	0.33	1	M Pattanayek	7/17/2009
Arsenic	10	µg/L	0.93	5	M Pattanayek	7/17/2009
Barium	64	µg/L	2.5	5	M Pattanayek	7/17/2009
Beryllium	0.12J	µg/L	0.11	1	M Pattanayek	7/17/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/17/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/17/2009
Cobalt	0.56J	µg/L	0.04	1	M Pattanayek	7/17/2009
Copper	2.5	µg/L	0.38	1	M Pattanayek	7/17/2009
Lead	0.85J	µg/L	0.10	1	M Pattanayek	7/17/2009
Manganese	58	µg/L	0.42	1	M Pattanayek	7/17/2009
Nickel	1.7	µg/L	0.25	1	M Pattanayek	7/17/2009
Selenium	1.8J	µg/L	1.3	5	M Pattanayek	7/18/2009
Silver	0.047J	µg/L	0.03	0.25	M Pattanayek	7/17/2009
Thallium	0.33J	µg/L	0.03	1	M Pattanayek	7/17/2009
Vanadium	7.4	µg/L	3.4	5	M Pattanayek	7/17/2009
Zinc	7.6	µg/L	1.9	5	M Pattanayek	7/17/2009

**Lab-Sample Number:** K00002586002  
**Project Name:**  
**Sample Description:** Emory River mile 2.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2  
**Station No.:** EMORY002.1RO  
**Date/Time Collected:** 07/09/2009 11:02  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

**Field Determinations**

**pH:** 8.24 pH Units  
**Chlorine, residual:**  
**Conductivity:** 149 uMHO  
**Temperature:** 27.80  
**Dissolved Oxygen:** 8.27 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	7/14/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002586003  
**Project Name:**  
**Sample Description:** Approx 100' D/S from middle dredge point  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2A  
**Station No.:** Dredge Plume  
**Date/Time Collected:** 07/09/2009 11:11  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 8.21 pH Units  
**Chlorine, residual:**  
**Conductivity:** 186 uMHO  
**Temperature:** 25.41  
**Dissolved Oxygen:** 9.13 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals			METHOD: EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/11/2009				S Ufegbu	7/11/2009

TEST: ICP			METHOD: EPA 200.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	240	µg/L	2.9	10	S Ufegbu	7/17/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	270	µg/L	6.4	10	A Wilson	7/19/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	7/17/2009
Arsenic	4.7J	µg/L	0.93	5	M Pattanayek	7/17/2009
Barium	55	µg/L	2.5	5	M Pattanayek	7/17/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	7/17/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/17/2009
Chromium	61	µg/L	2.0	5	M Pattanayek	7/17/2009
Cobalt	0.44J	µg/L	0.04	1	M Pattanayek	7/17/2009
Copper	3.4	µg/L	0.38	1	M Pattanayek	7/17/2009
Lead	0.59J	µg/L	0.10	1	M Pattanayek	7/17/2009
Manganese	61	µg/L	0.42	1	M Pattanayek	7/17/2009
Nickel	1.7	µg/L	0.25	1	M Pattanayek	7/17/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	7/18/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	7/17/2009
Thallium	0.20J	µg/L	0.03	1	M Pattanayek	7/17/2009
Vanadium	3.9J	µg/L	3.4	5	M Pattanayek	7/17/2009
Zinc	4.0J	µg/L	1.9	5	M Pattanayek	7/17/2009



**Lab-Sample Number:** K00002586003  
**Project Name:**  
**Sample Description:** Approx 100' D/S from middle dredge point  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2A  
**Station No.:** Dredge Plume  
**Date/Time Collected:** 07/09/2009 11:11  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 8.21 pH Units  
**Chlorine, residual:**  
**Conductivity:** 186 uMHO  
**Temperature:** 25.41  
**Dissolved Oxygen:** 9.13 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.05J	µg/L	0.029	0.2	A Bass	7/14/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002586004  
**Project Name:**  
**Sample Description:** Emory River mile 1.9 at underwater weir  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2B  
**Station No.:** EMORY001.9RO  
**Date/Time Collected:** 07/09/2009 11:17  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 8.34 pH Units  
**Chlorine, residual:**  
**Conductivity:** 187 uMHO  
**Temperature:** 25.23  
**Dissolved Oxygen:** 9.43 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/11/2009				S Ufegbu	7/11/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	220	µg/L	2.9	10	S Ufegbu	7/17/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	240	µg/L	6.4	10	A Wilson	7/19/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	7/17/2009
Arsenic	3.2J	µg/L	0.93	5	M Pattanayek	7/17/2009
Barium	53	µg/L	2.5	5	M Pattanayek	7/17/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	7/17/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/17/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/17/2009
Cobalt	0.40J	µg/L	0.04	1	M Pattanayek	7/17/2009
Copper	3.4	µg/L	0.38	1	M Pattanayek	7/17/2009
Lead	0.53J	µg/L	0.10	1	M Pattanayek	7/17/2009
Manganese	58	µg/L	0.42	1	M Pattanayek	7/17/2009
Nickel	1.7	µg/L	0.25	1	M Pattanayek	7/17/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	7/18/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	7/17/2009
Thallium	0.19J	µg/L	0.03	1	M Pattanayek	7/17/2009
Vanadium	3.7J	µg/L	3.4	5	M Pattanayek	7/17/2009
Zinc	4.0J	µg/L	1.9	5	M Pattanayek	7/17/2009

**Lab-Sample Number:** K00002586004  
**Project Name:**  
**Sample Description:** Emory River mile 1.9 at underwater weir  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 2B  
**Station No.:** EMORY001.9RO  
**Date/Time Collected:** 07/09/2009 11:17  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

**Field Determinations**

**pH:** 8.34 pH Units  
**Chlorine, residual:**  
**Conductivity:** 187 uMHO  
**Temperature:** 25.23  
**Dissolved Oxygen:** 9.43 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	7/14/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Lab-Sample Number: K00002586005

Project Name:

Sample Description: Emory River mile 1.7

Sampler Project Name: TVA Ash Spill

Project Site No.: 3

Station No.: EMORY001.7RO

Date/Time Collected: 07/09/2009 11:26

Sampler's Name: Geoff Klein

County: ROANE - 73

Sample Matrix: Water

EFO: Knoxville

Sampling Agency: TDEC-WPC

Billing Code: 327.34-20

Send Report To: TDEC-WPC

Agency Invoiced: TDEC-WPC

Priority Date: 07/19/2009

Date/Time Received: 07/09/2009 14:07

Received By: E McCrary

Field Determinations

pH: 8.55 pH Units

Chlorine, residual:

Conductivity: 244 uMHO

Temperature: 25.67

Dissolved Oxygen: 10.35 mg/L

Other:

Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Digestion Metals	07/11/2009				S Ufegbu	7/11/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Iron	210	µg/L	2.9	10	S Ufegbu	7/17/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	ML	ANALYZED BY:	DATE
Aluminum	230	µg/L	6.4	10	A Wilson	7/19/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	7/17/2009
Arsenic	3.3J	µg/L	0.93	5	M Pattanayek	7/17/2009
Barium	49	µg/L	2.5	5	M Pattanayek	7/17/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	7/17/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/17/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/17/2009
Cobalt	0.38J	µg/L	0.04	1	M Pattanayek	7/17/2009
Copper	2.9	µg/L	0.38	1	M Pattanayek	7/17/2009
Lead	0.47J	µg/L	0.10	1	M Pattanayek	7/17/2009
Manganese	57	µg/L	0.42	1	M Pattanayek	7/17/2009
Nickel	1.6	µg/L	0.25	1	M Pattanayek	7/17/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	7/18/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	7/17/2009
Thallium	0.089J	µg/L	0.03	1	M Pattanayek	7/17/2009
Vanadium	3.7J	µg/L	3.4	5	M Pattanayek	7/17/2009
Zinc	4.7J	µg/L	1.9	5	M Pattanayek	7/17/2009

**Lab-Sample Number:** K00002586005  
**Project Name:**  
**Sample Description:** Emory River mile 1.7  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 3  
**Station No.:** EMORY001.7RO  
**Date/Time Collected:** 07/09/2009 11:26  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

# Field Determinations

**pH:** 8.55 pH Units  
**Chlorine, residual:**  
**Conductivity:** 244 uMHO  
**Temperature:** 25.67  
**Dissolved Oxygen:** 10.35 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MLQ	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	7/14/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Lab-Sample Number: K00002586006

Project Name:

Sample Description: Emory River mile 0.1

Sampler Project Name: TVA Ash Spill

Project Site No.: 4

Station No.: EMORY000.1RO

Date/Time Collected: 07/09/2009 11:34

Sampler's Name: Geoff Klein

County: ROANE - 73

Sample Matrix: Water

EFO: Knoxville

Sampling Agency: TDEC-WPC

Billing Code: 327.34-20

Send Report To: TDEC-WPC

Agency Invoiced: TDEC-WPC

Priority Date: 07/19/2009

Date/Time Received: 07/09/2009 14:07

Received By: E McCrary

Field Determinations

pH: 8.59 pH Units

Chlorine, residual:

Conductivity: 276 uMHO

Temperature: 24.88

Dissolved Oxygen: 11.08 mg/L

Other:

Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/11/2009				S Ufegbu	7/11/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	270	µg/L	2.9	10	S Ufegbu	7/17/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	200	µg/L	6.4	10	A Wilson	7/19/2009
Antimony	0.82J	µg/L	0.33	1	M Pattanayek	7/17/2009
Arsenic	2.6J	µg/L	0.93	5	M Pattanayek	7/17/2009
Barium	47	µg/L	2.5	5	M Pattanayek	7/17/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	7/17/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/17/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/17/2009
Cobalt	0.43J	µg/L	0.04	1	M Pattanayek	7/17/2009
Copper	2.2	µg/L	0.38	1	M Pattanayek	7/17/2009
Lead	0.52J	µg/L	0.10	1	M Pattanayek	7/17/2009
Manganese	68	µg/L	0.42	1	M Pattanayek	7/17/2009
Nickel	1.8	µg/L	0.25	1	M Pattanayek	7/17/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	7/18/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	7/17/2009
Thallium	0.071J	µg/L	0.03	1	M Pattanayek	7/17/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	7/17/2009
Zinc	2.9J	µg/L	1.9	5	M Pattanayek	7/17/2009

**Lab-Sample Number:** K00002586006  
**Project Name:**  
**Sample Description:** Emory River mile 0.1  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 4  
**Station No.:** EMORY000.1RO  
**Date/Time Collected:** 07/09/2009 11:34  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

**Field Determinations**

**pH:** 8.59 pH Units  
**Chlorine, residual:**  
**Conductivity:** 276 uMHO  
**Temperature:** 24.88  
**Dissolved Oxygen:** 11.08 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	7/14/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002586007  
**Project Name:**  
**Sample Description:** Clinch River mile 2.3  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 5  
**Station No.:** CLINC002.3RO  
**Date/Time Collected:** 07/09/2009 11:48  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 8.23 pH Units  
**Chlorine, residual:**  
**Conductivity:** 278 uMHO  
**Temperature:** 26.03  
**Dissolved Oxygen:** 9.20 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/11/2009				S Ufegbu	7/11/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	180	µg/L	2.9	10	S Ufegbu	7/17/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	210	µg/L	6.4	10	A Wilson	7/19/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	7/17/2009
Arsenic	2.7J	µg/L	0.93	5	M Pattanayek	7/17/2009
Barium	47	µg/L	2.5	5	M Pattanayek	7/17/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	7/17/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/17/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/17/2009
Cobalt	0.31J	µg/L	0.04	1	M Pattanayek	7/17/2009
Copper	3.7	µg/L	0.38	1	M Pattanayek	7/17/2009
Lead	0.37J	µg/L	0.10	1	M Pattanayek	7/17/2009
Manganese	34	µg/L	0.42	1	M Pattanayek	7/17/2009
Nickel	1.5	µg/L	0.25	1	M Pattanayek	7/17/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	7/18/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	7/17/2009
Thallium	0.062J	µg/L	0.03	1	M Pattanayek	7/17/2009
Vanadium	4.4J	µg/L	3.4	5	M Pattanayek	7/17/2009
Zinc	2.6J	µg/L	1.9	5	M Pattanayek	7/17/2009



**Lab-Sample Number:** K00002586007  
**Project Name:**  
**Sample Description:** Clinch River mile 2.3  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 5  
**Station No.:** CLINC002.3RO  
**Date/Time Collected:** 07/09/2009 11:48  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

# Field Determinations

**pH:** 8.23 pH Units  
**Chlorine, residual:**  
**Conductivity:** 278 uMHO  
**Temperature:** 26.03  
**Dissolved Oxygen:** 9.20 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MLQ	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	7/14/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Lab-Sample Number:** K00002586008  
**Project Name:**  
**Sample Description:** Clinch River TVA Discharge Point  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 5A  
**Station No.:** KingAshOutF2  
**Date/Time Collected:** 07/09/2009 11:54  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

**Field Determinations**  
**pH:** 8.04 pH Units  
**Chlorine, residual:**  
**Conductivity:** 284 uMHO  
**Temperature:** 26.80  
**Dissolved Oxygen:** 8.38 mg/L  
**Other:**  
**Flow:** CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/11/2009				S Ufegbu	7/11/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	280	µg/L	2.9	10	S Ufegbu	7/17/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	370	µg/L	6.4	10	A Wilson	7/19/2009
Antimony	0.53J	µg/L	0.33	1	M Pattanayek	7/17/2009
Arsenic	3.9J	µg/L	0.93	5	M Pattanayek	7/17/2009
Barium	56	µg/L	2.5	5	M Pattanayek	7/17/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	7/17/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/17/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/17/2009
Cobalt	0.46J	µg/L	0.04	1	M Pattanayek	7/17/2009
Copper	5.1	µg/L	0.38	1	M Pattanayek	7/17/2009
Lead	0.61J	µg/L	0.10	1	M Pattanayek	7/17/2009
Manganese	46	µg/L	0.42	1	M Pattanayek	7/17/2009
Nickel	1.7	µg/L	0.25	1	M Pattanayek	7/17/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	7/18/2009
Silver	0.034J	µg/L	0.03	0.25	M Pattanayek	7/17/2009
Thallium	0.81J	µg/L	0.03	1	M Pattanayek	7/17/2009
Vanadium	6.2	µg/L	3.4	5	M Pattanayek	7/17/2009
Zinc	4.2J	µg/L	1.9	5	M Pattanayek	7/17/2009

**Lab-Sample Number:** K00002586008  
**Project Name:**  
**Sample Description:** Clinch River TVA Discharge Point  
**Sampler Project Name:** TVA Ash Spill  
**Project Site No.:** 5A  
**Station No.:** KingAshOutF2  
**Date/Time Collected:** 07/09/2009 11:54  
**Sampler's Name:** Geoff Klein  
**County:** ROANE - 73  
**Sample Matrix:** Water  
**EFO:** Knoxville  
**Sampling Agency:** TDEC-WPC  
**Billing Code:** 327.34-20  
**Send Report To:** TDEC-WPC  
**Agency Invoiced:** TDEC-WPC  
**Priority Date:** 07/19/2009  
**Date/Time Received:** 07/09/2009 14:07  
**Received By:** E McCrary

# Field Determinations

**pH:** 8.04 pH Units  
**Chlorine, residual:**  
**Conductivity:** 284 uMHO  
**Temperature:** 26.80  
**Dissolved Oxygen:** 8.38 mg/L  
**Other:**  
**Flow:** CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.03J	µg/L	0.029	0.2	A Bass	7/14/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Lab-Sample Number: K00002586009

Project Name:

Sample Description: Clinch River mile 4.5 near Sugar Grove Valley R

Sampler Project Name: TVA Ash Spill

Project Site No.: 6

Station No.: CLINC004.5RO

Date/Time Collected: 07/09/2009 12:04

Sampler's Name: Geoff Klein

County: ROANE - 73

Sample Matrix: Water

EFO: Knoxville

Sampling Agency: TDEC-WPC

Billing Code: 327.34-20

Send Report To: TDEC-WPC

Agency Invoiced: TDEC-WPC

Priority Date: 07/19/2009

Date/Time Received: 07/09/2009 14:07

Received By: E McCrary

Field Determinations

pH: 8.22 pH Units

Chlorine, residual:

Conductivity: 280 uMHO

Temperature: 22.14

Dissolved Oxygen: 10.44 mg/L

Other:

Flow: CFS

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	07/11/2009				S Ufegbu	7/11/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	120	µg/L	2.9	10	S Ufegbu	7/17/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	110	µg/L	6.4	10	M Pattanayek	7/17/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	7/17/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	7/17/2009
Barium	42	µg/L	2.5	5	M Pattanayek	7/17/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	7/17/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	7/17/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	7/17/2009
Cobalt	0.29J	µg/L	0.04	1	M Pattanayek	7/17/2009
Copper	3.0	µg/L	0.38	1	M Pattanayek	7/17/2009
Lead	0.30J	µg/L	0.10	1	M Pattanayek	7/17/2009
Manganese	36	µg/L	0.42	1	M Pattanayek	7/17/2009
Nickel	1.6	µg/L	0.25	1	M Pattanayek	7/17/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	7/18/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	7/17/2009
Thallium	0.18J	µg/L	0.03	1	M Pattanayek	7/17/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	7/17/2009
Zinc	6.8	µg/L	1.9	5	M Pattanayek	7/17/2009

Lab-Sample Number: K00002586009

Project Name:

Sample Description: Clinch River mile 4.5 near Sugar Grove Valley R

Sampler Project Name: TVA Ash Spill

Project Site No.: 6

Station No.: CLINC004.5RO

Date/Time Collected: 07/09/2009 12:04

Sampler's Name: Geoff Klein

County: ROANE - 73

Sample Matrix: Water

EFO: Knoxville

Sampling Agency: TDEC-WPC

Billing Code: 327.34-20

Send Report To: TDEC-WPC

Agency Invoiced: TDEC-WPC

Priority Date: 07/19/2009

Date/Time Received: 07/09/2009 14:07

Received By: E McCrary

#### Field Determinations

pH: 8.22 pH Units

Chlorine, residual:

Conductivity: 280 uMHO

Temperature: 22.14

Dissolved Oxygen: 10.44 mg/L

Other:

Flow: CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	A Bass	7/14/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

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U - Undetected